

# Work Order ID 121535

Thursday, June 26, 2014 3:02:38 PM

**\*121535\***

Page 1

Item ID: D4870-3 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: End Fitting, Large *24*  
 Start Date: 6/26/14 Start Qty: 42.00 **\*42\*** Cust Item ID:  
 Required Date: 6/26/14 Req'd Qty: 42.00 **\*42\*** Customer:  
 Reference:

Approvals: Process Plan: MLS Date: 14-06-30 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4870	REV A

100 0.00

**\*100\***  
 Outsource5 Memo 0.00  
 Outsource process - Machining ISSUE P/O: 24906  
 POSSIBLE SUPPLIER: ATG  
 C OF C IS REQUIRED

110 QC6- Inspect dimensions to drawing 0.00

**\*110\***  
 QC Memo 0.00  
 Quality Control

150 0.00

**\*150\***  
 Purchasing PURCHASING 0.00  
 Purchasing Memo  
 Issue P/O: 24906  
 LPI Per ASTM 1417 LEVEL 2  
 Certificate of conformaty is required

*24*  
*CL 14/07/08*

*(24)*  
 DAS  
 38  
 9-89  
 DEC 16 2014

*CL 14/07/08*

*done @ ATG*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
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# Work Order ID 121535

\*121535\*

Page 2

Thursday, June 26, 2014 3:02:38 PM

Item ID: D4870-3 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: End Fitting, Large  
 Start Date: 6/26/14 Start Qty: 42.00 \*42\* Cust Item ID:  
 Required Date: 6/26/14 Req'd Qty: 42.00 \*42\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160	Receive & Inspect for Damage & Mat'l Certs	0.00							
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*160*									
Packaging	Memo	0.00							

Packaging	Ensure certificate of conformity is attached								
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190	QC21- Final Inspection - Work Order Release	0.00							
-----	---	------	--	--	--	--	--	--	--

*190*									
QC	Memo	0.00							

Quality Control									
-----------------	--	--	--	--	--	--	--	--	--

24X SPI4-12-16

DEC 17 2014

DAS  
06  
9-89

14/12/18 JG

B4-12-18

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
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# Picklist Print

July-31-14 11:24:52 AM

Page 1

Work Order ID: 121535

**\*121535\***

Parent Item: D4870-3

**\*D4870-3\***

Parent Item Name: End Fitting, Large

Start Date: 6/26/14

Required Date: 6/26/14

Start Qty: 24.00

Required Qty: 24.00

Comments: IPP REV:A NEW ISSUE 14-01-28 JLM VERIFIED BY:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4870-3P		Purchased	No				Each	0.0000		24			
<b>*D4870-3P*</b>									<b>**</b>				
End Fitting, Large													
M174PH-H900R1.500		Purchased	No				f	130.2166		8			
<b>*M174PH-H900R1 500*</b>									<b>**</b>				
17-4SS H900 ROUND BAR 1.500													

24X SP14-12-14

C2 14/07/08

## Location

## Loc Qty

## Loc Code

MAT031

130.2166

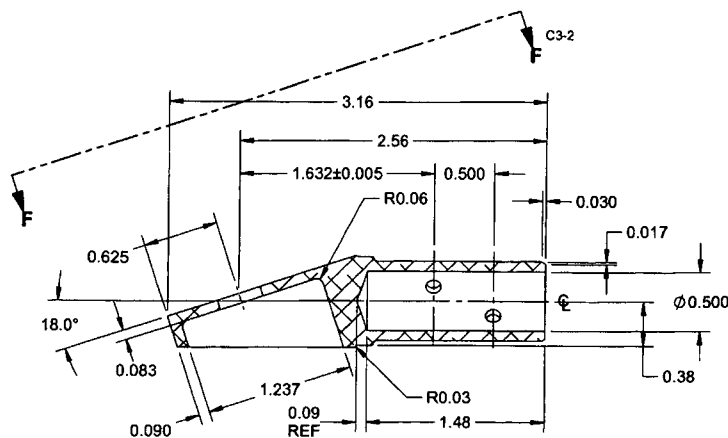
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1.2583

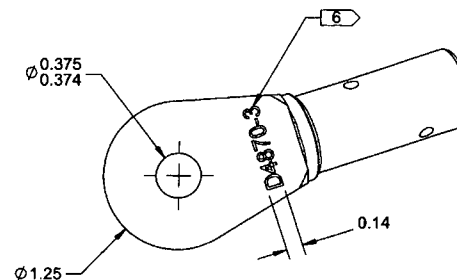
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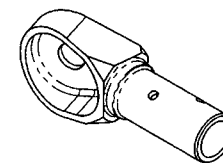
8



**SECTION E-E B5-2**



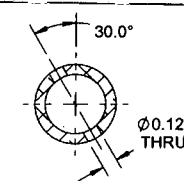
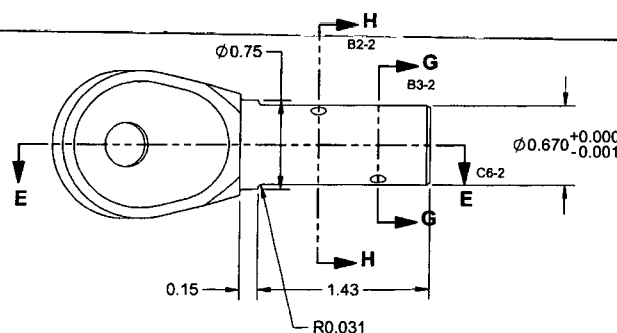
**AUXILIARY VIEW F-F D6-2**



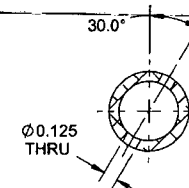
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 121535 M/L

14-06-30



**SECTION G-G B6-2**



**SECTION H-H B6-2**

**D4870-3 END FITTING, LARGE**

**NOTES:**

- 1) MATERIAL: 17-4 PH/S17400/TYPE 630 SS ROUND BAR, H900 CONDITION  
PER AMS 5643/ASTM A564  
DART SPEC M17-4-R
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.3.  
ENGRAVE P/N USING 0.14 HIGH LETTERS TO A MAX. DEPTH OF 0.010
- 7) WEIGHT: 0.19 lbs
- 8) LIQUID PENETRANT INSPECT PER QSI 038 6.1.1 (ASTM E1417 LEVEL 2)

RELEASED  
2013-12-12

APPROVED	DESIGN	RF	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
	DRAWN	RF		
	CHECKED	HS	DRAWING NO.	REV. A
	MFG. APPR.	JLM	<b>D4870</b>	SHEET 2 OF 2
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	<b>END FITTING</b>	NTS
DATE		13.12.09	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO24906

Purchase Order Date 7/8/2014  
PO Print Date 8/20/2014

Page Number 1 of 8

Order From : VC-ATG001

A.T.G. INDUSTRIES INC.  
731 INDUSTRIELLE ROAD  
ROCKLAND, ON K4K 1T2  
CANADA

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

REUSED \$

Contact Name  
Vendor Phone 613-446-4544

Ship To Contact  
Ship To Phone  
Ship Via: VENDOR'S TRUCK  
Ship Acct:

Buyer Chantal Lavoie  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency CAD  
FOB FCA - (Free Carrier)

FAX

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extend Pr
1	D4870-1P  AS PER DWG D4870-1 REV. A B121621	End Fitting, Small	12/19/2014 Yes 12/19/2014	FN	24.00 Each	\$133.00	\$3,192
Line Total:							\$3,192
2	D4870-3P  AS PER DWG D4870-3 REV. A B121535	End Fitting, Large	12/19/2014 Yes 12/19/2014	FN	24.00 Each	\$133.00	\$3,192
Line Total:							\$3,192
3	D4871-1P  AS PER DWG D4871-1 REV. A B121490	End Fitting	12/19/2014 Yes 12/19/2014	FN	30.00 Each	\$130.00	\$3,900

SP14-12-16

Note:

8/20/2014



A.T.G. INDUSTRIES INC.  
731 INDUSTRIELLE STREET  
ROCKLAND, ON K4K 1T2  
Canada

Ph: (613) 446-4544  
Fax: (613) 446-4556

### Pack List

Number: 909316

Date: 16-Dec-14

To

DART AEROSPACE LTD  
1270 ABERDEEN STREET  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

CHANTAL LAVOIE  
DART AEROSPACE LTD  
1270 ABERDEEN STREET  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
24 ea	Part: D4870-1P END FITTING, SMALL Job: 16636	PO: PO24906	Rev: A Line: 1
16 ea	Part: D4805-5P END FITTING Job: 16649	PO: PO24906	Rev: A Line: 14
18 ea	Part: D4869-3P END FITTING, EYE Job: 16650	PO: PO24906	Rev: A Line: 15
30 ea	Part: D4805-3P END FITTING Job: 16652	PO: PO24906	Rev: A Line: 17
10 ea	Part: D4808-1P ROD END Job: 16653	PO: PO24906	Rev: A Line: 18
24 ea	Part: D4869-1P END FITTING, EYE Job: 16654	PO: PO24906	Rev: A Line: 19
✓ 24 ea	Part: D4870-3P END FITTING, LARGE Job: 16637	PO: PO24906	Rev: A Line: 2
29 ea	Part: D4871-1P END FITTING Job: 16638	PO: PO24906	Rev: A Line: 3
30	Part: D4871-3P		Rev: A

SP14-12-16

SP14-12-16





# F.A.I.

## First Article Inspection Report

#

522

Requesting Company:	Dart Aerospace	PO#:	PO24906	Line:	2	Qty:	24
Part Number:	D4870-3P	Rev:	A	Part Description:	End Fitting, large		
FAI Supplied by:	A.T.G. Industries Inc.	FAI Prepared by:	Emily Louis-Seize	Date:	July 14, 2014		
Qty Inspected:	24	FAI Inspected by:	Mike Csontos	Date:	November 25, 2014		

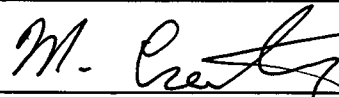
### Material and/or Special Processes

Type	Description	Specification Number/Code	Certificate of Conformance Number:
Material	17-4SS H900		Supplied by Customer
Special Process	Liquid Penetrant	QSI 038 6.1.1 (ASTM E1417 Level 2)	PO#: 20140501

### Inspection Information and Results

Char#	Location	Requirement	Result	UoM	Pass/Fail	Measurement Equipment:	Operation #:
1	D6	3.16	3.161	inch	Pass	Vernier Caliper	2
2	D6	2.56	2.565	inch	Pass	Height Gauge	2
3	D6	1.632±.005	1.629	inch	Pass	Height Gauge	3
4	D6	R.06	.062	inch	Pass	Radius Gauge	2
5	D6	.500	.501	inch	Pass	Height Gauge	3
6	D5	.030	.030	inch	Pass	Comparator	1
7	D5	.017	.016	inch	Pass	Comparator	1
8	C5	Ø.500	Ø.501	inch	Pass	Gauge Pin	1
9	C5	.38	.375	inch	Pass	Height Gauge	1
10	C6	1.48	1.485	inch	Pass	Depth Micrometer	1
11	C6	R.03	.03	inch	Pass	Radius Gauge	1
12	C6	.09 REF	.102	inch	Pass	Depth Micrometer	1

# **Inspection Information and Results**

Char#	Location	Requirement	Result	UoM	Pass/Fail	Measurement Equipment:	Operation #:
13	C7	1.237	1.236	inch	Pass	Vernier Caliper	2
14	C7	.090	.091	inch	Pass	Micrometer	2
15	C7	.083	.083	inch	Pass	Micrometer	2
16	C7	18°	18°	degree	Pass	Comparator	2
17	D7	.625	.624	inch	Pass	Micrometer	2
18	D4	Ø.375/.374	.3745	inch	Pass	Gauge Pin	2
19	D3	Note 6	D4870-3	n/a	Pass	Visual	2
20	C3	.14	.148	inch	Pass	Vernier Caliper	2
21	C4	Ø1.25	Ø1.25	inch	Pass	Vernier Caliper	2
22	B6	Ø.75	Ø.749	inch	Pass	Micrometer	1
23	B5	Ø.670+.000/-.001	Ø.6696	inch	Pass	Micrometer	1
24	B6	1.43	1.429	inch	Pass	Height Gauge	1
25	A6	R.031	R.031	inch	Pass	Radius Gauge	1
26	B6	.15	.15	inch	Pass	Height Gauge	1
27	B3	30°	30°	degree	Pass	Comparator	3
28	B3	Ø.125 thru	Ø.125	inch	Pass	Gauge Pin	3
29	B2	30°	30°	degree	Pass	Comparator	3
30	B2	Ø.125 thru	Ø.125	inch	Pass	Gauge Pin	3
First Article Inspection Report Approved and Completed in Full by:							
				Date: 15-Dec-14			

# skyservice Work Order Traveler

Sky Service F.B.O. Inc.



DOT APP 53-89 / EASA 145.7142 / BDA AMO

WO #: MWO23016	Customer: ATG Industries Inc	Dept: NDT YUL	Reference: 20140501
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	

Task: UNSCHEDULED	Sequence: 2
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## Work Required:

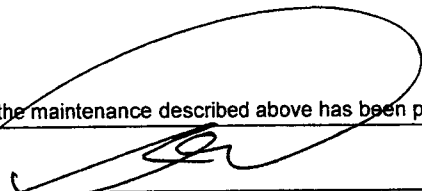

CARRY OUT NDT ON 25 END FITTING LARG P/N D4870-3P 'AS PER PO: 20140501

Action Taken:	Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-13  ***NO CRACK FOUND***  PEN.(ZL-37 , B#10A070), DEV.(SKD-S2,B#13D14k) , EMU.(ZR-10B,B#10A074).	DEC 10 2014	 

Description	Location	P/N	Qty	Batch	S/N Off	S/N On

# COPY

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp	Date:
Name: <b>RAFIK MELIKIAN</b>		DEC 10 2014